

Work Order ID 87276

July-11-12 12:54:03 PM

87276

Page 1

Item ID: D4103-1

Revision ID:

Item Name: Step / Handle

Start Date: 7/05/12 Start Qty: 4.00

Required Date: 8/03/12 Req'd Qty: 4.00

Reference:

Approvals:

Process Plan:

Date: 12/12/12

Tooling: _____

Date: _____

Setup Start

NS1

Stop

NS2

Accept

N900040100***4******4***

Cust Item ID:

Customer:

QC:

Date: _____

SPC (Y/N): _____

Date: _____

Run Start

NR1

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr								
D4103	A								
100		Cut blanks as per folio	0.00						
100									
Bandsaw		Memo	0.00						
Jeaspa Bandsaw		6.200" long							
110			0.00						
110									
HAAS 1		Memo	0.00						
HAAS CNC vertical machine #1		Mill as per dwg and Folio FA937							
		DEBURR							
120		QC2- Inspect parts off machine FAI/FAIB	0.00						
120									
QC		Memo	0.00						
Quality Control									

B-a 12/12/31

8 4

DAS 08 2-89

B-a 12/12/31

8 4

DAS 08 2-89

B-a 12/12/31

8 4

DAS 08 2-89

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 87276

July-11-12 12:54:03 PM

87276

Page 2

Item ID: D4103-1

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Step / Handle

Stop

NS2

Start Date: 7/05/12 Start Qty: 4.00

4

Cust Item ID:

Required Date: 8/03/12 Req'd Qty: 4.00

4

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

130

130

QC

Quality Control

QC8- Inspect parts - second check

0.00

07/13/2012

8 0

140

140

HandFinish

Hand Finishing

Chemical Conversion Coat per QSI005 4.1

0.00

8 26 13-17

150

150

QC

Quality Control

QC3- Inspect Part Finish

0.00

SmB
13.1.7

8

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

Work Order ID 87276

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87276

Page 3

Item ID: D4103-1

Accept

N900040100

Setup

Start

NS1

Revision ID:

Item Name: Step / Handle

Stop

NS2

Start Date: 7/05/12 Start Qty: 4.00

4

Cust Item ID:

Required Date: 8/03/12 Req'd Qty: 4.00

4

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

160

160

Packaging

Packaging

Identify as per dwg & Stock Location

SD37

0.00

8X

SD

13-01-08

170

QC21- Final Inspection - Work Order Release

0.00

13/1/98

170

QC

Quality Control

13-01-8

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod. Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

July-11-12 12:54:03 PM

Page 1

Work Order ID: 87276**Parent Item:** D4103-1**Parent Item Name:** Step / Handle**Start Date:** 7/05/12**Required Date:** 8/03/12**Start Qty:** 4.00**Required Qty:** 4.00**Comments:** IPP REV: A NEW ISSUE 10-07-01 JLM VERIFIED BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M6061T6B2.000X03.500 6061-T6 Bar 2.00 x 3.50		Purchased	No			100	f	15.8111	0.52	2.1894736		B.a 12/12/31	

Location	Loc Qty	Loc Code
MAT009	15.8111	
112764	0.7284	
→ 118182	11.4527	
→ 121660	3.63	
		3.8315 ft
		0.5473 ft

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order:	87276
Description: Step/Handle		Part Number:	D4103-1
Inspection Dwg: D4103	Rev: A		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
2.93	+/-0.030	2.930	✓		Vern	GA-01
0.37	+/-0.030	0.370	✓		"	"
0.83	+/-0.030	0.829	✓		"	"
Ø0.560	+/-0.010	Ø0.560	✓		"	"
0.06 X 45°	+/-0.030 X +/-0.5°	0.090X45°	✓		"	"
0.26	+/-0.030	0.250	✓		"	"
0.33	+/-0.030	0.326	✓		H-G	31006
R0.06	+/-0.030	R0.063	✓		R-G	ref.
1.78	+/-0.030	1.783	✓		Vern	GA-01
0.45	+/-0.030	0.436	✓		"	"
0.33	+/-0.030	0.336	✓		H-G	31006
0.75	+0.000/-0.030	0.750	✓		D-G	GA-08
1.66	+/-0.030	1.644	✓		Vern	GA-01
0.80	+/-0.030	0.784	✓		"	"
1.07	+/-0.030	1.076	✓		H-G	31006
3.85	+/-0.030	3.849	✓		Vern	GA-01
0.03 X 45°	+/-0.030 X +/-0.5°	0.060X45°	✓		"	"
0.31	+/-0.030	0.303	✓		"	"
0.28	+/-0.030	0.277	✓		"	"
0.030 Deep	+/-0.030	0.031	✓		D-G	31008
6.00	+/-0.030	6.000	✓		Vern	GA-01
R0.27	+/-0.030	R0.270	✓		R-G	ref.
0.56	+/-0.030	0.554	✓		Vern	GA-01
1.74	+/-0.030	1.753	✓		H-G	31006
2.50	+/-0.030	2.500	✓		Vern	GA-01
Ø0.438	+0.006/-0.001	Ø0.441	✓		"	"
Ø0.266	+0.006/-0.001	Ø0.267	✓		"	"
0.96	+/-0.030	0.952	✓		H-G	31006
0.26	+/-0.030	0.251	✓		"	"
0.25	+/-0.030	0.245	✓		Vern	GA-01
2.25	+/-0.030	2.250	✓		"	"
1.00	+/-0.030	1.000	✓		"	"
0.20	+/-0.030	0.203	✓		"	"
0.98	+/-0.030	0.975	✓		"	"
0.32	+/-0.030	0.315	✓		"	"
1.25	+/-0.030	1.247	✓		"	"
R0.19	+/-0.030	R0.188	✓		R-G	ref.

Measured by:	5-A 08 0-09	Audited by:	14 0-09	Preliminary Approval:	
Date:	12/12/31	Date:	13/01/04	Date:	

Rev	Date	Change	Revised by	Approved
A	10.10.07	New Issue	KJ	MM

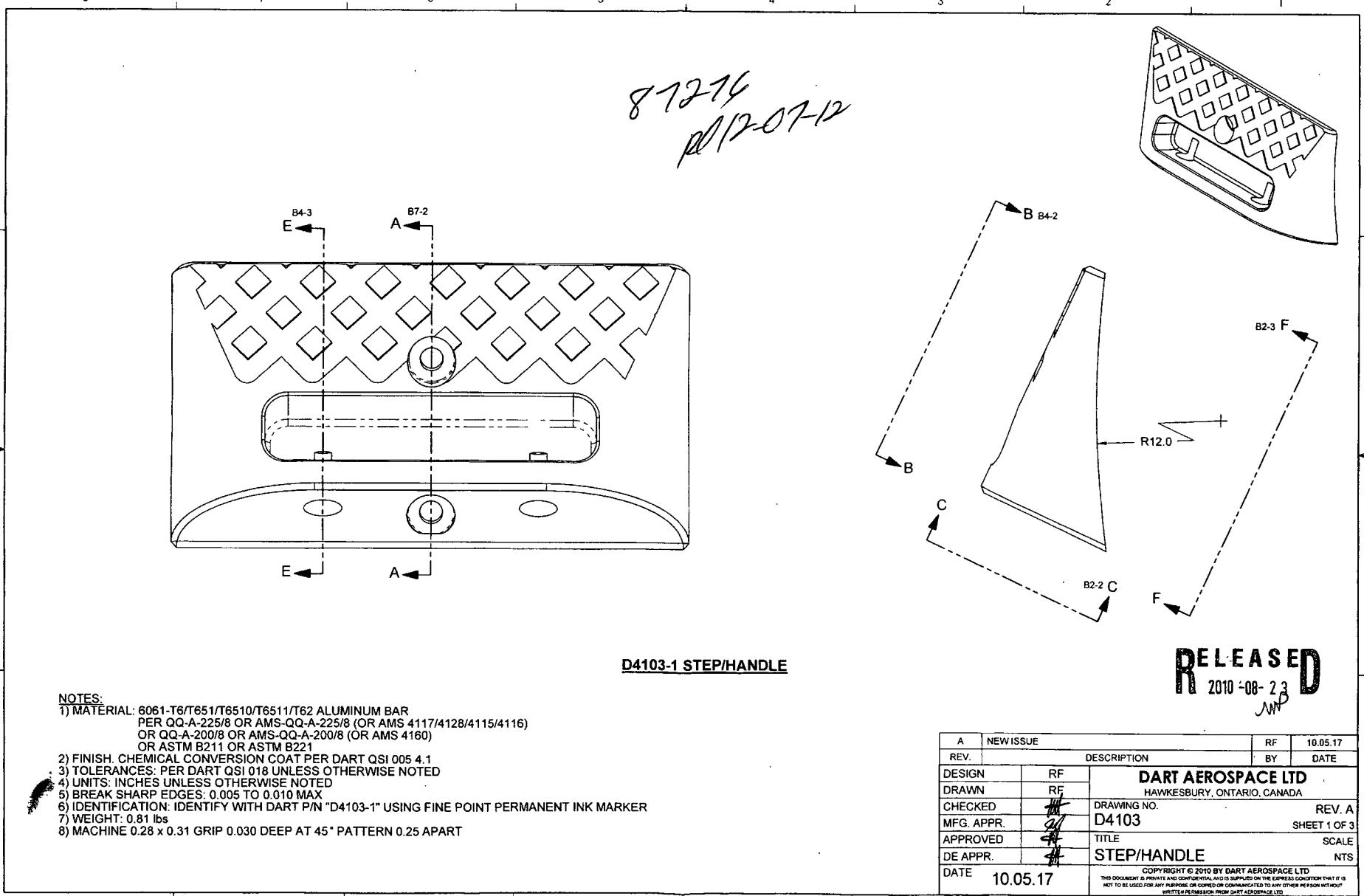
NCR: Yes / No

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order: _____			DISPOSITION			AGAINST DEPARTMENT/PROCESS									
			Rework <input type="checkbox"/>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>								
			Scrap <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coor. <input type="checkbox"/>	Quality <input type="checkbox"/>								
			Use-as-is <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>								
			Work Order Update <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>									
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance		Initial Chief Eng	Action Description		Sign & Date	Verification	QC Inspector				
Doc/Data															
Equip/Tooling															
Operator															
Material															
Setup															
Other															
Process															
Supplier															
Training															
Unapproved															
FAULT CATEGORY															
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped. <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube				General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio				<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions				<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge		<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled	



A		NEW ISSUE		RF	10.05.17
REV.		DESCRIPTION		BY	DATE
DESIGN	RF	DART AEROSPACE LTD			
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA			
CHECKED	#	DRAWING NO.		REV. A	
MFG. APPR.	#	D4103			SHEET 1 OF 3
APPROVED	#	TITLE		STEP/HANDLE	SCALE
DE APPR.	#	DATE	10.05.17		NTS

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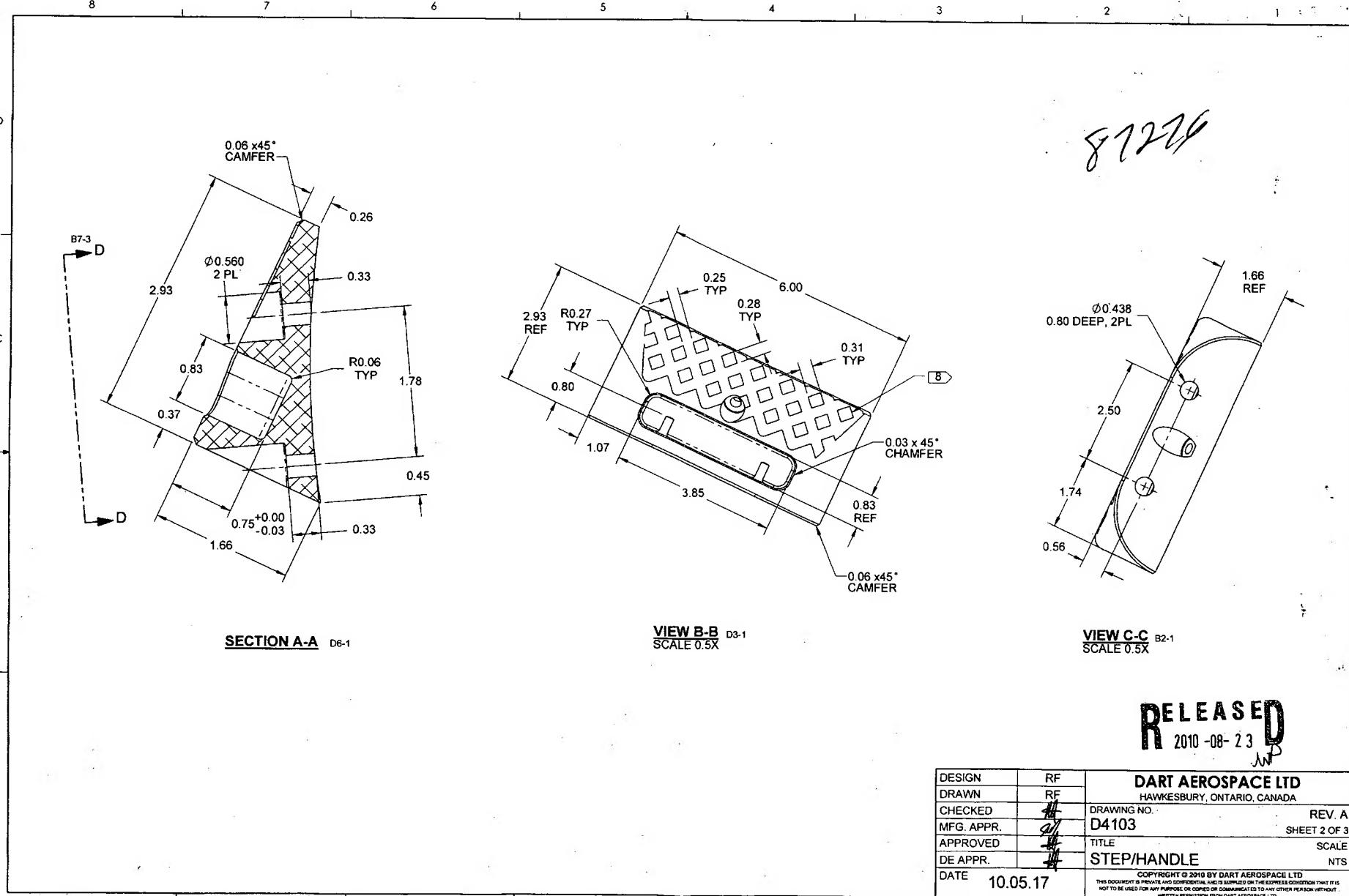
NCR: Yes / No

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order: _____			DISPOSITION		AGAINST DEPARTMENT/PROCESS						
			Rework <input type="checkbox"/>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>				
			Scrap <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coor. <input type="checkbox"/>	Quality <input type="checkbox"/>				
			Use-as-is <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>				
			Work Order Update <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>					
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data											
Equip/Tooling											
Operator											
Material											
Setup											
Other											
Process											
Supplier											
Training											
Unapproved											
FAULT CATEGORY											
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube				General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions						<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other	



RELEASED
2010-08-23

DESIGN	RF	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. A
MFG. APPR.		D4103	SHEET 2 OF 3
APPROVED		TITLE	SCALE
DE APPR.		STEP/HANDLE	NTS
DATE 10.05.17		COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION OF DART AEROSPACE LTD. IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

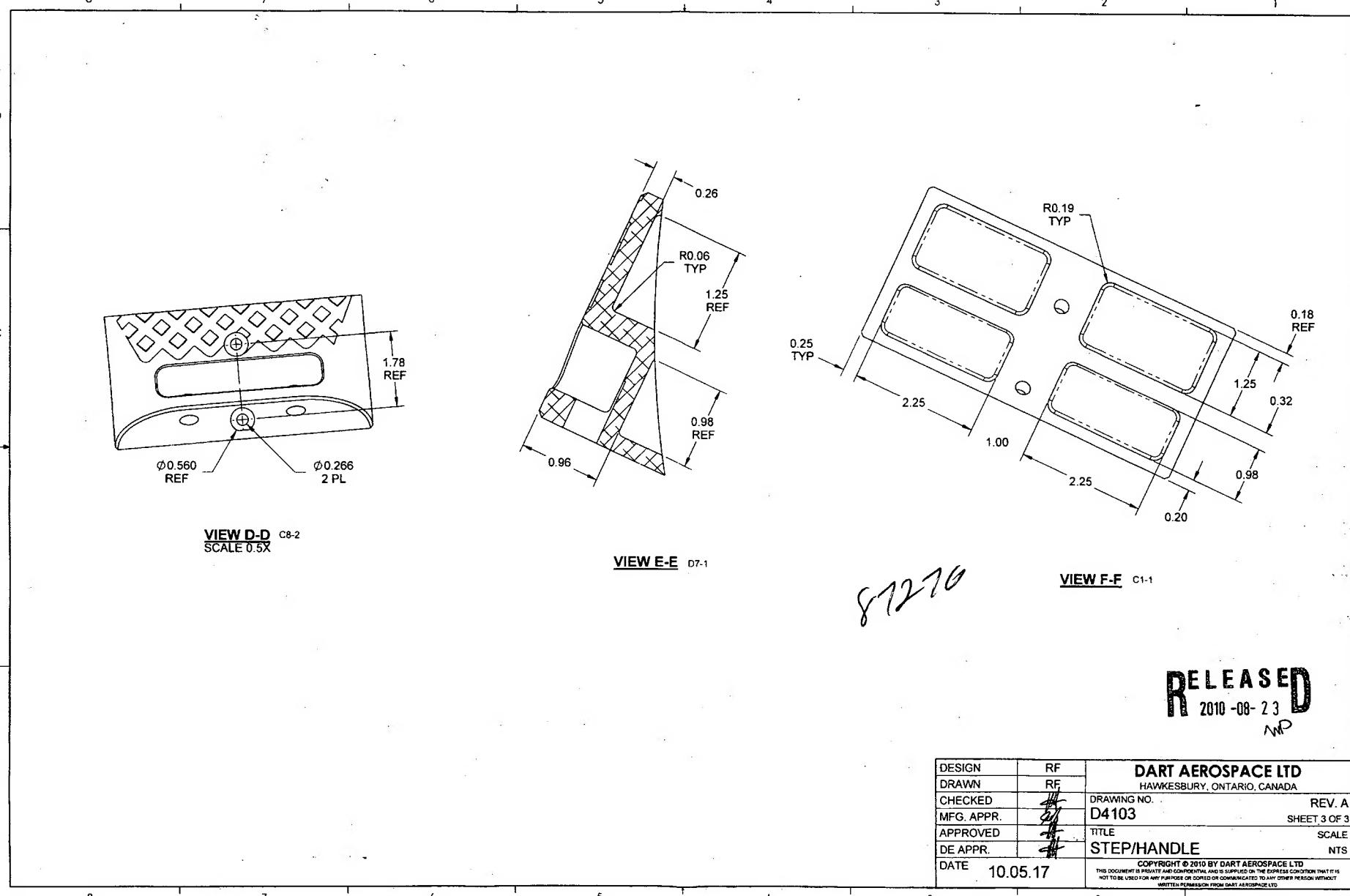
NCR: Yes / No

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order: _____			DISPOSITION			AGAINST DEPARTMENT/PROCESS						
			Rework <input type="checkbox"/>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>			Engineering <input type="checkbox"/>			
			Scrap <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coor. <input type="checkbox"/>			Quality <input type="checkbox"/>			
			Use-as-is <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>			Other <input type="checkbox"/>			
			Work Order Update <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>						
Root Cause		Date	Step	Qty	Description of work order update or Non-conformance		Initial Chief Eng	Action Description		Sign & Date	Verification	QC Inspector
Doc/Data	<input type="checkbox"/>											
Equip/Tooling	<input type="checkbox"/>											
Operator	<input type="checkbox"/>											
Material	<input type="checkbox"/>											
Setup	<input type="checkbox"/>											
Other	<input type="checkbox"/>											
Process	<input type="checkbox"/>											
Supplier	<input type="checkbox"/>											
Training	<input type="checkbox"/>											
Unapproved	<input type="checkbox"/>											
FAULT CATEGORY												
Landing Gear			General									
Bending	<input type="checkbox"/>	Bend	<input type="checkbox"/>	Grain	<input type="checkbox"/>	Ovalized	<input type="checkbox"/>	Pressure/Forced	<input type="checkbox"/>	Temperature/Cure	<input type="checkbox"/>	
Centre Not Concentric to O/S	<input type="checkbox"/>	BOM/Route	<input type="checkbox"/>	Hardware	<input type="checkbox"/>	Over/Under tolerance	<input type="checkbox"/>	Weld	<input type="checkbox"/>	Wrong Stock Pulled	<input type="checkbox"/>	
Cracks	<input type="checkbox"/>	Broken/Damaged	<input type="checkbox"/>	Inspection Incomplete	<input type="checkbox"/>	Part Incorrect	<input type="checkbox"/>					
Crushed/Crimped	<input type="checkbox"/>	Burrs	<input type="checkbox"/>	Instructions Incomplete/Unclear	<input type="checkbox"/>	Part Lost/Missing	<input type="checkbox"/>					
Cuffs	<input type="checkbox"/>	Contamination	<input type="checkbox"/>	Maintenance	<input type="checkbox"/>	Part Moved	<input type="checkbox"/>					
Heat Treat	<input type="checkbox"/>	Countersink	<input type="checkbox"/>	Mislabeled	<input type="checkbox"/>	Positioned Wrong	<input type="checkbox"/>					
Inspection Strip in Tube	<input type="checkbox"/>	Cut Too Short	<input type="checkbox"/>	Misread	<input type="checkbox"/>	Power Loss/Surge	<input type="checkbox"/>	Other	<input type="checkbox"/>			
Ripples in Bend	<input type="checkbox"/>	Drill Holes	<input type="checkbox"/>	Offset	<input type="checkbox"/>							
Torque Waves in Extrusion	<input type="checkbox"/>	Drawing	<input type="checkbox"/>	Out of Calibration	<input type="checkbox"/>							
Turning Sequence	<input type="checkbox"/>	Finish	<input type="checkbox"/>	Out of Sequence	<input type="checkbox"/>							
Wave/Twist in Tube	<input type="checkbox"/>	Folio	<input type="checkbox"/>	Outside Dimensions	<input type="checkbox"/>							



NCR: Yes / No

DQA: Date:

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order: _____			DISPOSITION			AGAINST DEPARTMENT/PROCESS					
			Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/>	Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/>	Water Jet <input type="checkbox"/> Prod. Eng. Coor. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/>	Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/>				
Part No. _____											
NCR No. _____											
Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector	
Doc/Data											
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Operator											
Material											
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Process											
Supplier											
Training											
Unapproved											
FAULT CATEGORY											
Landing Gear					General						
Bending		Bend		Grain		Ovalized		Pressure/Forced			
Centre Not Concentric to O/S		BOM/Route		Hardware		Over/Under tolerance		Temperature/Cure			
Cracks		Broken/Damaged		Inspection Incomplete		Part Incorrect		Weld			
Crushed/Crimped		Burrs		Instructions Incomplete/Unclear		Part Lost/Missing		Wrong Stock Pulled			
Cuffs		Contamination		Maintenance		Part Moved					
Heat Treat		Countersink		Mislabeled		Positioned Wrong					
Inspection Strip in Tube		Cut Too Short		Misread		Power Loss/Surge					
Ripples in Bend		Drill Holes		Offset							
Torque Waves in Extrusion		Drawing		Out of Calibration							
Turning Sequence		Finish		Out of Sequence							
Wave/Twist in Tube		Folio		Outside Dimensions							